

# Double Drain

RIW Double Drain is a cold applied combination of impermeable high density polyethylene sheet and permeable geotextile filter fabric.

## BENEFITS

- Prevents ground water reaching structure
- Isolates structure from surrounding earth
- Eliminates necessity for granular backfill
- High drainage capacity
- High impact resistance, providing protection to the primary membrane

## APPLICATIONS

Relieves hydrostatic pressure build-up:

- Basement and Sub-structures
- Retaining walls
- Reservoirs
- Podiums

## APPLIED TO

- Concrete
- Masonry
- Primary membrane

The logo for RIW, consisting of the letters "RIW" in a bold, white, sans-serif font, centered within a dark blue oval with a white glow effect.

**RIW**

**Double Drain**

## TYPICAL USES

RIW Double Drain is typically used to isolate the structure from the surrounding soil and relieve hydrostatic pressure by promoting the flow of ground water away from the face of the structure ( see detail 1 ). The RIW Double Drain will not only provide excellent protection to the primary membrane against backfilling and root penetration, but can also increase the structures thermal insulation. Typical installations include external tanking, retaining walls, reservoirs and podium deck / terrace areas.

## DURABILITY

Subject to normal conditions of use, RIW Double Drain provides effective protection to the primary membrane against backfilling, and will promote drainage of water away from the building for the life of the structure.

Sub-soil drainage systems must be maintainable and able to discharge water away from the structure.

## SPECIFICATION

J40 - Flexible Sheet tanking / Damp Proofing in accordance with NBS Clause 295 / 380.

RIW Double Drain may also be specified in R12 - Drainage below ground, Clause 165 or R16 - Ground water pressure relief drainage, Clause 380.

Please consult RIW Limited for further information.

## ANCILLARY PRODUCTS

RIW supply a range of ancillary products for use with RIW Double Drain which include:-

**RIW Adhesive Tape** - a 150mm double sided tape for adhering the RIW Double Drain to the primary membrane or prepared substrate.

**RIW Top Edging Strip** - a medium density profiled polyethylene sheet which protects the top edge of the RIW Double Drain and prevents clogging.

**RIW X Cramps** - a fixing aid for locating and mechanically securing the system to the substrate

## CONSTRUCTION

### GENERAL

All construction should conform with the Building Regulations, Codes of Practice and British Standards in current use at the time the building is being constructed. In particular it is recommended that reference is made to BS8102 : 1990.

### PREPARATION

**All surfaces:** Should be clean, dry and free from contaminates before applying the RIW Double Drain.

## PERFORMANCE & COMPOSITION

RIW DOUBLE DRAIN	
Form	0.5mm High density polyethylene sheet
Colour	Black
Filter material	Polypropylene fabric
Overall thickness	8 mm
Roll size	2 x 15m long rolls
Weight	0.58 kg / m <sup>2</sup>
Laps:	70mm
Water vapour resistance of polyethylene sheet	1800 m <sup>2</sup> .s. GPa/kg
Permeability of filter fabric	130mm/s
Tensile strength	>10 N / mm <sup>2</sup>
Elongation at break	>10 %
Maximum drainage capacity	2.3 litres / sec / m length of wall
Working temperature	-50°C to 80°C
Maximum compression strength	200 kN / m <sup>2</sup>
Deformation under long term loading	25% maximum ( at 50 kN / m <sup>2</sup> )

The above performance figures are typical values and should not be considered a product specification.

### APPLICATION

**General :** RIW Double Drain should be applied to the outer face of the structure, with the geotextile filter fabric facing outwards.

**Walls :** Apply horizontal bands of the RIW Adhesive Tape to the structure at the proposed top edge of the RIW Double Drain (normally 50mm below ground level) and at 2 metre centres below. Unroll a few metres of the RIW Double Drain horizontally, hold straight, and draw tight to avoid wrinkling. Apply pressure to the product along the wall, to seal to the RIW Adhesive Tape. See also RIW X-Cramps.

**Horizontal surfaces :** Roll out the product, to cover the required area, and overlap as before.

**Overlapping :** Peel back the filter fabric from 75mm from the vertical edge of the existing RIW Double Drain. Lap the next roll onto the existing by 70mm. Overlay the filter fabric previously released onto the newly installed RIW Double Drain and stick down with 75mm square patches of the RIW Adhesive Tape at two ( 2 ) metre centres. This method can be repeated for horizontal overlaps, where required. ( The lower sheet should always be installed under the upper sheet ).

**Upper edge :** RIW Top Edging Strip is used to protect the top edge of the membrane, and is fixed to the structure using nails. Obviously, these must not be allowed to puncture the primary membrane ( see detail 2 ). RIW Sheetseal 226 may be used to 'seal' the edges if required, please consult RIW Technical Department for further information.

**Lower edge :** A perforated land drain should be installed, as part of a sub-soil drainage system, up against the lower edge of the RIW Double Drain. Peel back the filter fabric as necessary, wrap it over the land drain, and hold in place with granular fill prior to backfilling ( see detail 3 ).

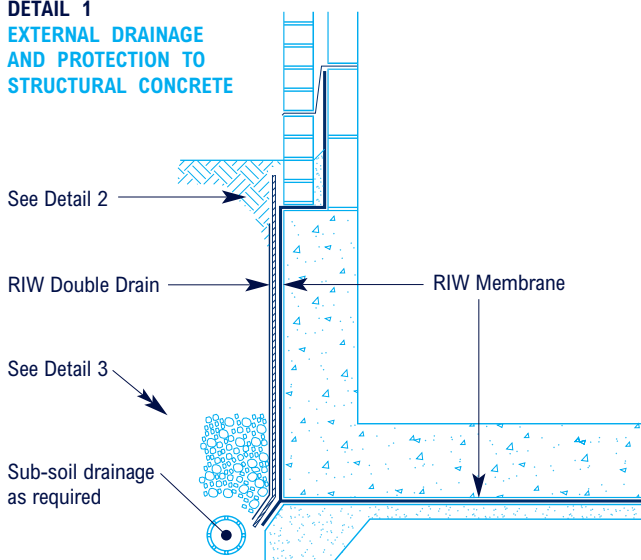
**Service entries :** A secure link between the RIW Double Drain and the primary membrane can be achieved by using RIW Sealing Rope.

**RIW X-Cramps :** Provided there is not a primary membrane on the surface, then RIW Double Drain can be fixed using X-Cramps and nails at 250mm centres top & bottom ( nails not supplied ).

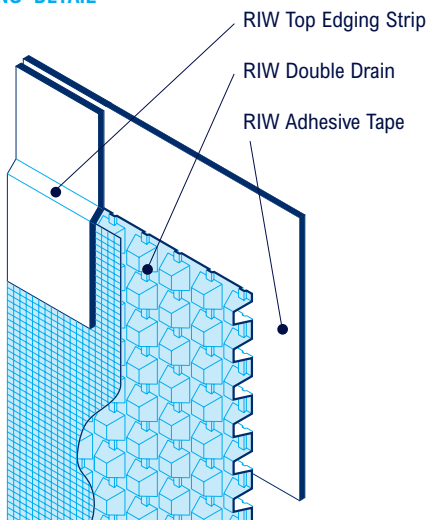
## SPECIFIC USES

RIW Double Drain can normally be used as an alternative to RIW Protection Board. Not only will the RIW Double Drain provide protection, it will also deflect the majority of ground water away from the primary membrane. It will isolate the structure from the surrounding earth and relieve hydrostatic pressure, all of which will enhance the performance of the primary membrane.

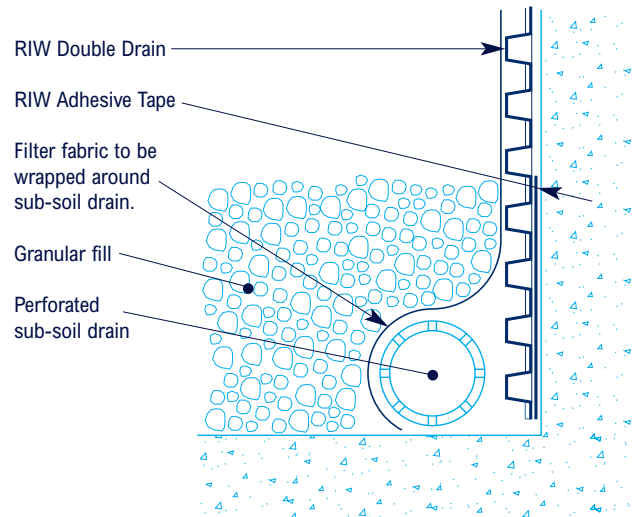
**DETAIL 1  
EXTERNAL DRAINAGE  
AND PROTECTION TO  
STRUCTURAL CONCRETE**



**DETAIL 2  
UPPER LEVEL FIXING DETAIL**



**DETAIL 3  
LOWER LEVEL FIXING DETAIL**



## SUPPLY

### AVAILABILITY

All RIW products can be obtained through Builders Merchants or approved stockists. A list of approved stockists is available from RIW Ltd's offices.

### PACKAGING

RIW Double Drain	2m wide x 15m long rolls
RIW Adhesive Tape	150mm wide x 15m long rolls
RIW Top Edging Strip	2m lengths
RIW X-Cramps	Bags of 60

### STORAGE

There are no special requirements but rolls should be kept upright, under cover and protected from extremes of temperature.

## TECHNICAL SERVICES

The RIW Technical Department is available to advise on individual projects and to prepare or assist in the preparation of specifications and drawings. A list of experienced applicators of RIW materials is available from RIW Ltd's offices.



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The information in this literature was correct at the time of going to press. However, we are committed to continually improving our products and reserve the right to change product specifications.

For the latest information, please consult RIW Limited. Conditions of use are beyond our control, therefore we can not warrant the results to be obtained.

**RIW**  
**Double Drain**